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NTC ORLANDO
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FINAL BASE REALIGNMENT AND CLOSURE ENVIRONMENTAL SITE SCREENING REPORTS STUDY AREA 28 NTC ORLANDO FL

1/1/1998

ABB ENVIRONMENTAL

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BASE REALIGNMENT AND CLOSURE ENVIRONMENTAL SITE SCREENING REPORT

STUDY AREA 28

NAVAL TRAINING CENTER ORLANDO, FLORIDA

UNIT IDENTIFICATION CODE: N65928
CONTRACT NO.: N62467-89-D-0317/107

JANUARY 1998

SOUTHERN DIVISION
NAVAL FACILITIES ENGINEERING COMMAND
NORTH CHARLESTON, SOUTH CAROLINA
29419-9010

BASE REALIGNMENT AND CLOSURE
ENVIRONMENTAL SITE SCREENING REPORT

STUDY AREA 28

NAVAL TRAINING CENTER
ORLANDO, FLORIDA

Unit Identification Code: N65928

Contract No. N62467-89-D-0317/107

Prepared by:

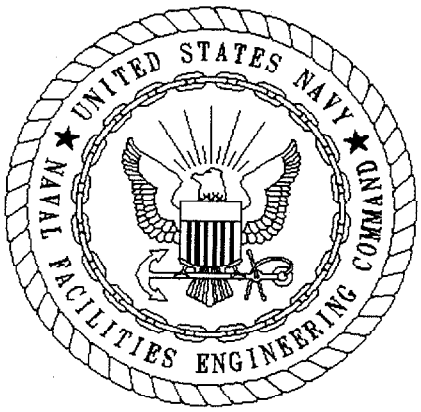
ABB Environmental Services, Inc.
2590 Executive Center Circle, East
Tallahassee, Florida 32301

Prepared for:

Department of the Navy, Southern Division
Naval Facilities Engineering Command
2155 Eagle Drive
North Charleston, South Carolina 29418

Barbara Nwokike, Code 1873, Engineer-in-Charge

January 1998



CERTIFICATION OF TECHNICAL
DATA CONFORMITY (MAY 1987)

The Contractor, ABB Environmental Services, Inc., hereby certifies that, to the best of its knowledge and belief, the technical data delivered herewith under Contract No. N62467-89-D-0317/107 are complete and accurate and comply with all requirements of this contract.

DATE: January 14, 1998

NAME AND TITLE OF CERTIFYING OFFICIAL: John Kaiser
Task Order Manager

NAME AND TITLE OF CERTIFYING OFFICIAL: Richard Allen
Project Technical Lead

(DFAR 252.227-7036)

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Naval Training Center
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GLOSSARY

ABB-ES	ABB Environmental Services, Inc.
TAL	target analyte list

1.0 STUDY AREA 28, BOWLING ALLEY AND RECREATION CENTER (BUILDING 114)

This report contains information gathered during site screening activities conducted at Study Area 28. Field investigations were completed between June 24 and June 26, 1997. Proposed field activities were presented in the Site Screening Plan (ABB Environmental Services, Inc. [ABB-ES], 1995).

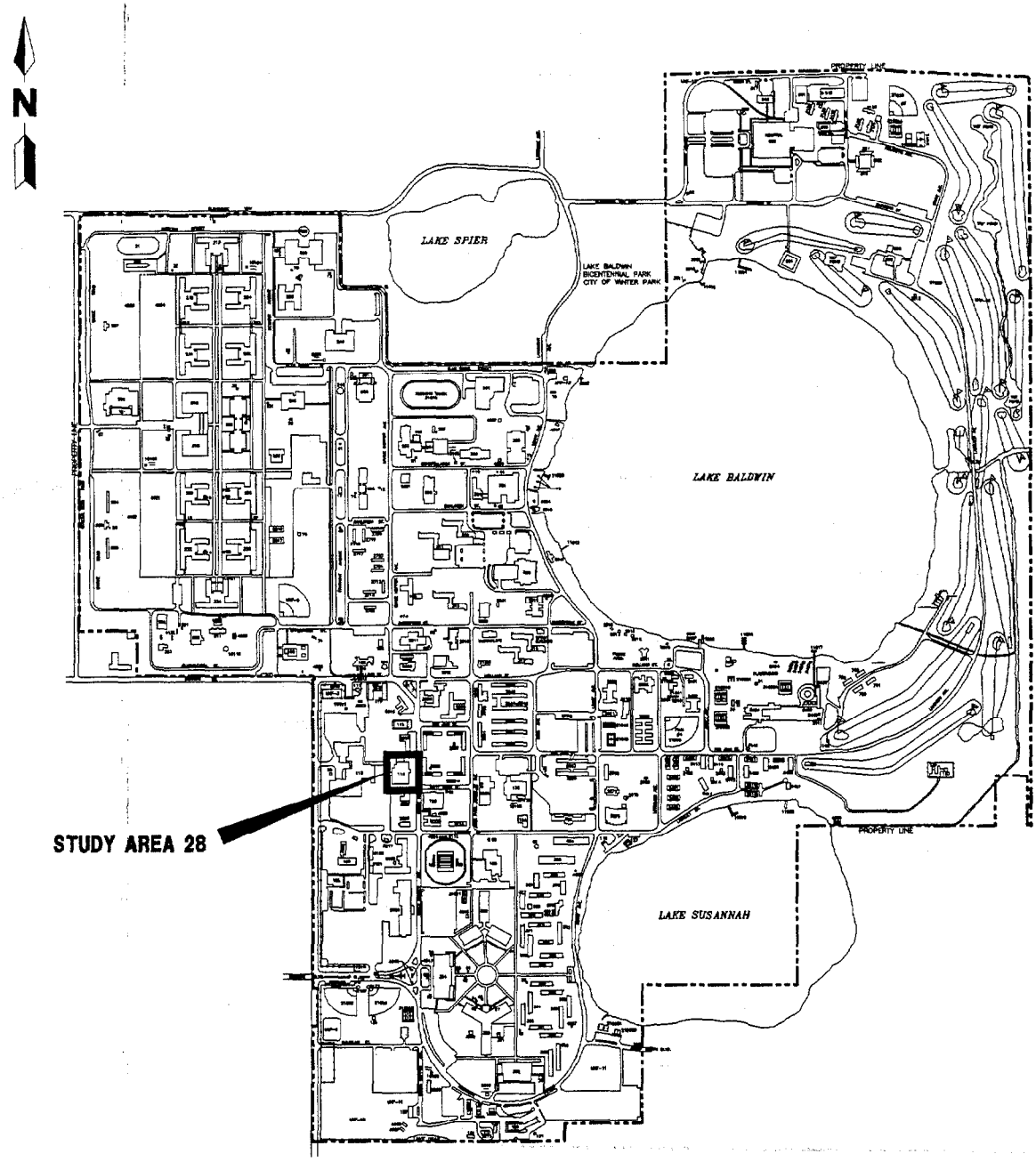
1.1 STUDY AREA 28, BACKGROUND AND CONDITIONS. Study Area 28 is located on the Main Base, Naval Training Center, Orlando (Figure 1). This section includes a brief background summary for Study Area 28. Additional details can be found in the Site Screening Plan (ABB-ES, 1995).

Study Area 28 includes Building 114 and the former locations of Buildings 2019 and 2021, which were in the same general area. Building 114, constructed in 1971, currently houses a bowling alley, snack bar, T-shirt and silk screening shop, and the arts and crafts hobby shop. The silk screening shop, where small volumes of various hazardous substances and cleaning solvents are used and stored, is located on the south end of the building.

Aerial photographs indicate that two smaller structures, Buildings 2019 and 2021, occupied the site prior to 1971. Building 2019 housed the office of the director of training, and Building 2021 was a drafting shop. Both of these buildings were demolished before construction of Building 114. Site plans made before building demolition depict a drainage ditch to the west of the buildings (Figure 2). A variety of wastes from the drafting department may have been disposed of in the ditch. The drainage ditch was filled in during the construction of Building 114.

1.2 STUDY AREA 28, INVESTIGATION SUMMARY. The site screening investigation was intended to evaluate the potential for release of contaminants to environmental media due to past site practices. Historical site activities and current site conditions were used to determine sampling locations. Because Building 114 was constructed over the area where past disposal activities may have occurred, no soil samples were collected. Groundwater sampling locations were located downgradient of areas where disposal may have occurred. There were no indications of environmental releases or stressed vegetation due to current site uses around the perimeter of Building 114 (Figure 2).

1.2.1 Groundwater Monitoring Well Installation and Sampling Two temporary monitoring wells, OLD-28-01 and OLD-28-02, were installed during the field investigation. The soil borings for the well installations were advanced with hand augers. The screened interval for each monitoring well bracketed the water table. A groundwater sample was collected from each well using low-flow sampling techniques. Each groundwater sample was submitted for full suite Contract Laboratory Program target analyte list (TAL) and target compound list laboratory analysis plus pesticides and polychlorinated biphenyls, along with suspended solids, in accordance with U.S. Environmental Protection Agency Level IV data quality objectives. Both filtered and unfiltered samples were collected and submitted for TAL inorganics analysis. The monitoring well installation diagrams and Groundwater Sample Field Data are included in Appendix A.



LEGEND
Property line

0 700 1400
SCALE: 1 INCH = 1400 FEET

FIGURE 1
LOCATION OF STUDY AREA 28

H:\OLD\TECHMEMO\NTCLOC AND T:\8519-38\NTCLOC\PWF\9-25-97

BASE REALIGNMENT AND CLOSURE ENVIRONMENTAL SITE SCREENING REPORT

NAVAL TRAINING CENTER ORLANDO, FLORIDA

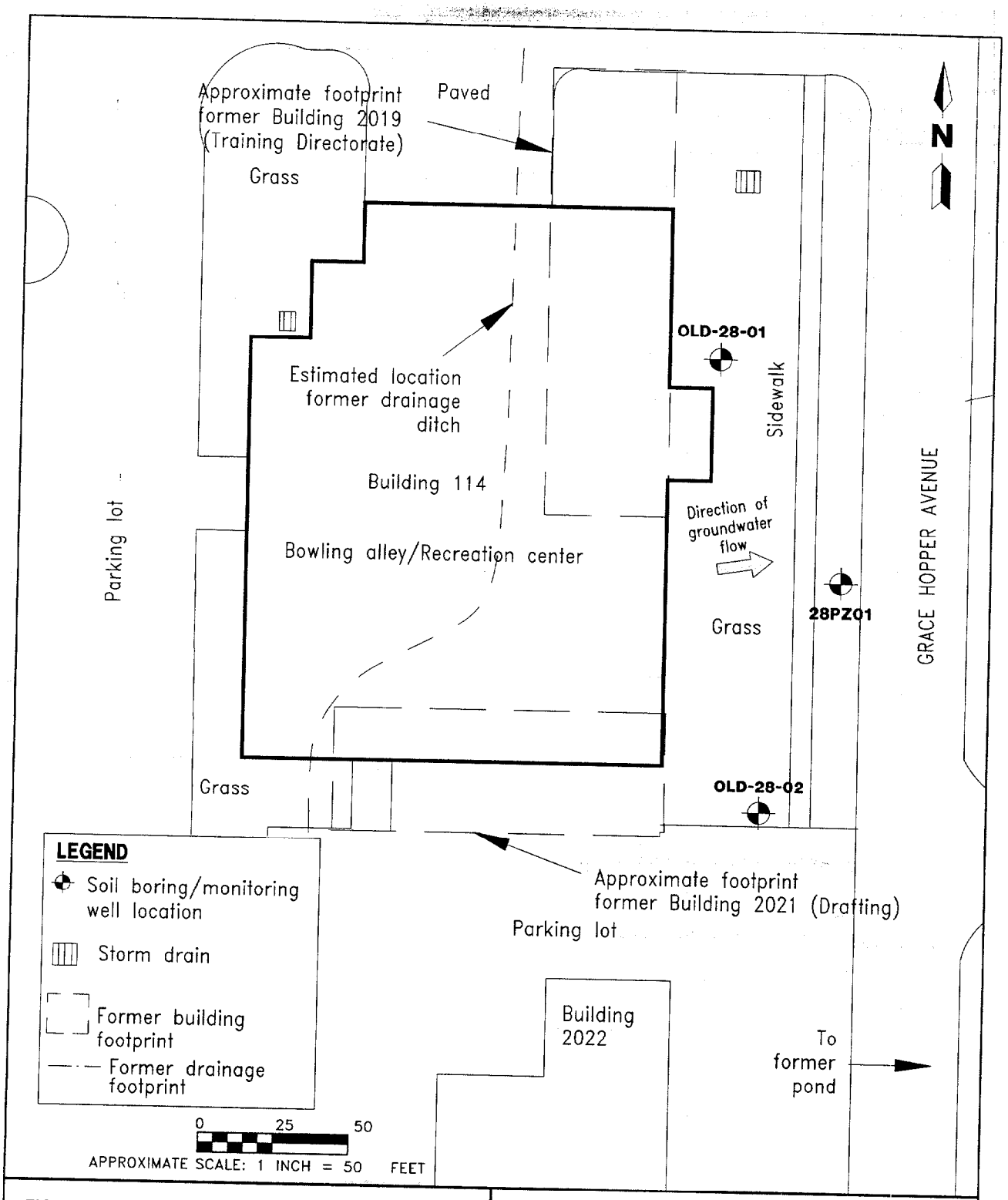


FIGURE 2
STUDY AREA 28, SOIL BORING AND MONITORING WELL LOCATIONS, BUILDING 114 BOWLING ALLEY AND RECREATION CENTER MAIN BASE, GROUP IV STUDY AREAS

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BASE REALIGNMENT AND CLOSURE ENVIRONMENTAL SITE SCREENING REPORT

NAVAL TRAINING CENTER ORLANDO, FLORIDA

1.2.2 Water-Level Survey In addition to the two monitoring wells, a piezometer was installed in the shallow surficial aquifer at Study Area 28. ABB-ES conducted a water-level survey to determine the relative elevation of the top of casing for the piezometer and temporary monitoring wells. The groundwater flow direction was estimated using the relative elevation data and water-level measurements from the wells and piezometer. Groundwater was estimated to flow toward the northeast, in the direction of Lake Baldwin. Data from the water-level survey are presented in Appendix A.

1.3 STUDY AREA 28, RESULTS. Analytes detected in media from Study Area 28 are presented as Positive Detections Tables in Appendix B. Appendix B has comparison columns presenting background and regulatory guidance concentrations. A complete set of analytical results is presented in Appendix C.

Analysis of the groundwater collected at Study Area 28 detected semivolatile organics and inorganics (Appendix B-1). All detections were below regulatory guidance criteria.

1.4 STUDY AREA 28, CONCLUSIONS AND RECOMMENDATIONS. Based on available information and site screening data, ABB-ES has concluded that there are no environmental concerns for the media sampled at Study Area 28.

ABB-ES recommends that Study Area 28 be made eligible for transfer with no further requirement for evaluation, and the site reclassified from 7/Grey to 1/White.

The undersigned members of the Base Realignment and Closure cleanup team concur with the findings and recommendations of the preceding investigation.

STUDY AREA 28

U.S. Environmental Protection Agency, Region IV	1-22-98 Date
Florida Department of Environmental Protection	1-22-98 Date
U.S. Department of the Navy	1-22-98 Date

REFERENCES

ABB Environmental Services, Inc. (ABB-ES). 1995. *Site Screening Plan, Groups I through IV Study Areas and Miscellaneous Additional Sites, Naval Training Center, Orlando, Florida*. Prepared for Southern Division, Naval Facilities Engineering Command, North Charleston, South Carolina.

APPENDIX A

MONITORING WELL INSTALLATION DIAGRAMS, GROUNDWATER SAMPLE FIELD DATA, AND WATER-LEVEL SURVEY RESULTS

APPENDIX A-1

MONITORING WELL INSTALLATION DIAGRAMS

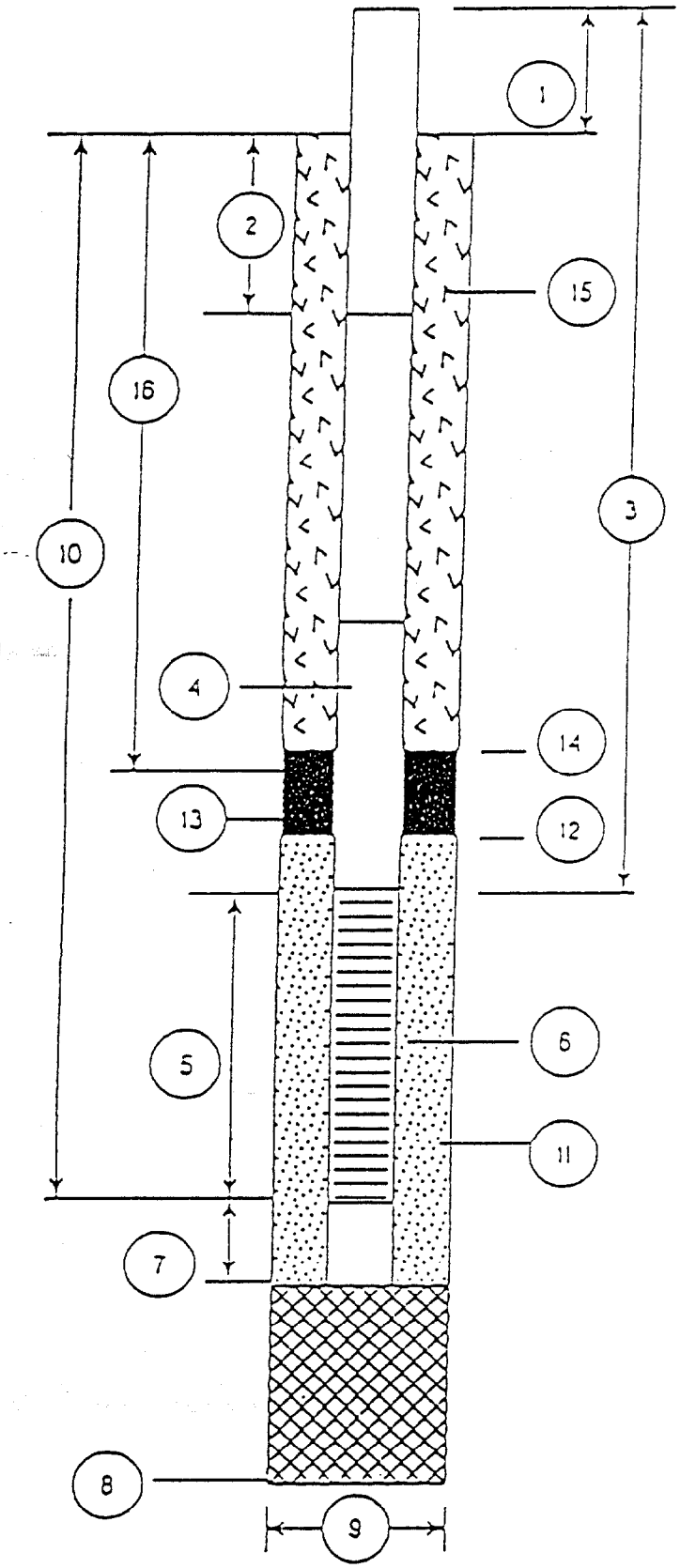
DEPARTMENT OF THE NAVY

SOUTHERN DIVISION
NAVAL FACILITIES ENGINEERING COMMAND
CHARLESTON, SC.

WELL CONSTRUCTION DETAIL

WELL NUMBER: OLD-28-01

DATE OF INSTALLATION: 6-24/97



1. Height of Casing above ground: 3.1 ft
2. Depth to first Coupling: ~1.9 ft
   Coupling Interval Depths: 5'
3. Total Length of Riser Pipe: 10'
4. Type of Riser Pipe: 2" sched 40 PVC
5. Length of Screen: 5'
6. Type of Screen: 2" sched 40 PVC 0.010 slot
7. Length of Sump: 6"
8. Total Depth of Boring: 12
9. Diameter of Boring: 4"
10. Depth to Bottom of Screen: 11.90'
11. Type of Screen Filter: Silica Sand
    Quantity Used: ____ Size: ____
12. Depth to Top of Filter: 4'
13. Type of Seal: Benseal
    Quantity Used: 10lb
14. Depth to Top of Seal: 1'
15. Type of Grout: NA
    Grout Mixture:
    Method of Placement: NA
16. Tot. Depth of 6 in. Steel Casing: NA

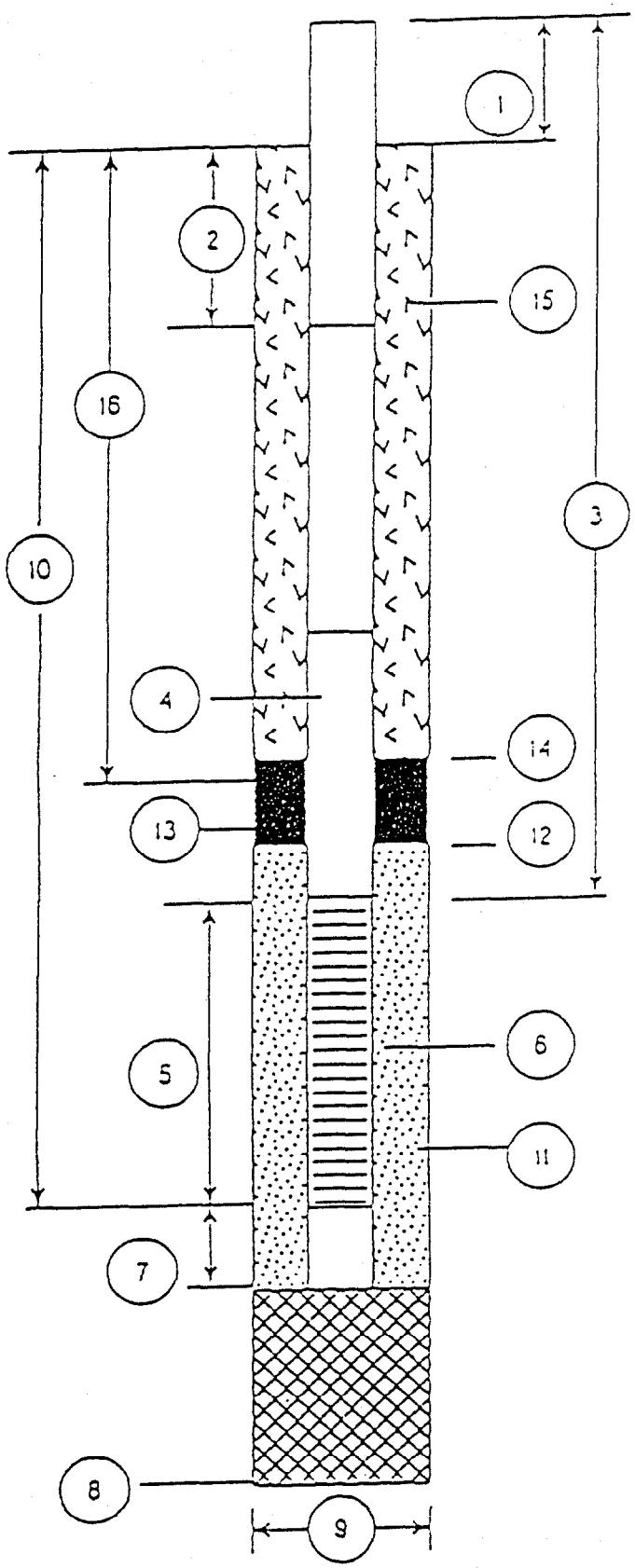
DEPARTMENT OF THE NAVY

SOUTHERN DIVISION
NAVAL FACILITIES ENGINEERING COMMAND
CHARLESTON, SC.

WELL CONSTRUCTION DETAIL

WELL NUMBER: OLD-28-02

DATE OF INSTALLATION: 6-24



1. Height of Casing above ground: 4.14
2. Depth to first Coupling: .86
   Coupling Interval Depths: 5'
3. Total Length of Riser Pipe: 10'
4. Type of Riser Pipe: 2" sched 40 PVC
5. Length of Screen: 5'
6. Type of Screen: 2" sched 40 PVC 0.010s
7. Length of Sump: 6"
8. Total Depth of Boring: 11'
9. Diameter of Boring: 4"
10. Depth to Bottom of Screen: 10.86
11. Type of Screen Filter: Silica sand
    Quantity Used: 50 lb Size: ____
12. Depth to Top of Filter: 1'
13. Type of Seal: Benseal
    Quantity Used: 21b
14. Depth to Top of Seal: 6"
15. Type of Grout: NA
    Grout Mixture:
    Method of Placement: NA
16. Tot. Depth of 6 in. Steel Casing: NA

APPENDIX A-2

GROUNDWATER SAMPLE FIELD DATA

GROUNDWATER SAMPLE FIELD DATA

Project: NTC ORLANDO
Project Number: 08545.10
Sample Location ID: OLD-28-01
Time: Start: 0805 End: 0955

Point of Interest: SA28
Date: 6/26/97
Signature of Sampler: William P. Ellsa

Water Level/Well Data

Well Depth 15.16 Ft. — [X] Measured [ ] Historical — [X] Top of Well [ ] Top of Protective Casing — Well Riser Stick-up (from ground) 3.1 Ft. — Protective Casing/Well Difference ____ Ft. — Protective Casing ____ Ft.

Depth to Water 12.98 Ft. — Well Material: [X] PVC [ ] SS — Well Locked?: [X] Yes [ ] No — Well Dia. [X] 2 inch [ ] 4 inch [ ] 6 inch — Water Level Equip. Used: [X] Elect. Cond. Probe [ ] Float Activated [ ] Press. Transducer

Height of Water Column 2.18 Ft. X [X] .16 Gal/Ft. (2 in.) [ ] .65 Gal/Ft. (4 in.) [ ] 1.5 Gal/Ft. (6 in.) [ ] ____ Gal/Ft. (__ in.) = 0.34 Gal/Vol; 5 Total Gal Purged

Well Integrity: Yes / No
Prot. Casing Secure
Concrete Collar Intact
Other

Equipment Documentation

Purging/Sampling Equipment Used:

(✓ If Used For) Purging	Sampling		Equipment ID
X	X	Peristaltic Pump	
		Submersible Pump	
		Bailer	
		PVC/Silicon Tubing	
X	X	Teflon/Silicon Tubing	
		Airlift	
		Hand Pump	
	X	In-line Filter	0.45 µ
		Press/Vac Filter	

Decontamination Fluids Used: (✓ All That Apply at Location)

- [ ] Methanol (100%)
- [ ] 25% Methanol/75% ASTM Type II water
- [X] Deionized Water
- [ ] Liquinox Solution
- [ ] Hexane
- [ ] HNO_3/D.I. Water Solution
- [ ] Potable Water
- [ ] None
- [ ] ____
- [ ] ____

Field Analysis Data

Ambient Air VOC ____ ppm Well Mouth ____ ppm Field Data Collected [ ] In-line [X] In Container

Sample Observations: [ ] Turbid [ ] Clear [X] Cloudy [ ] Colored [ ] Odor

Purge Data	@ ____ Gal.	@ ____ Gal.	@ ____ Gal.	@ ____ Gal.	@ ____ Gal.
Temperature, Deg. C	25.4	25.4	25.8	25.8	26.1
pH, units	6.76	6.63	6.94	6.95	6.98
Specific Conductivity (umhos/cm @ 25 Deg. C)	318	310	295	316	316
~~Oxidation Reduction, +/- mv~~ NTU	26.2	111	89.7	88.0	85.8
~~Dissolved Oxygen, ppm~~					

final 34.0 NTU

Sample Collection Requirements (✓ If Required at this Location)

Analytical Parameter	✓ If Field Filtered	Preservation Method	Volume Required	✓ If Sample Collected	Sample Bottle IDs
VOA		HCL	3 x 40 ml	✓	
SVOA		4°C	2 x 1 L	✓	
Pest/PCB		4°C	2 x 1 L	✓	
Inorganics	✓	HNO_3	2 x 1 L		
~~Explosives~~		4°C			
~~TPH~~		H_2SO_4			
~~TOC~~ TSS		~~H_2SO_4~~	1 x 500 ml		
Nitrate		H_2SO_4			

Notes: filter 1L metal
1 L non-filtered

GROUNDWATER SAMPLE FIELD DATA

Project: NTC ORLANDO
Point of Interest: SA 28
Project Number: 0654S.10
Date: 6-25/97
Sample Location ID: OLD-28-02
Time: Start: 1233 End: 1450
Signature of Sampler: M. Allen, D. Olson

Water Level/Well Data

Well Depth 15.18 Ft. — X Measured / ___ Historical
X Top of Well / ___ Top of Protective Casing ___ ___
Well Riser Stick-up (from ground) 4.14 Ft.
Protective Casing/Well Difference NA Ft.
Protective Casing NA Ft.

Depth to Water 12.78 Ft.
Well Material: X PVC / ___ SS ___
Well Locked?: X Yes / ___ No
Well Dia. X 2 inch / ___ 4 inch / ___ 6 inch ___
Water Level Equip. Used: X Elect. Cond. Probe / ___ Float Activated / ___ Press. Transducer ___

Height of Water Column 2.40 Ft. X
X .16 Gal/Ft. (2 in.) / ___ .65 Gal/Ft. (4 in.) / ___ 1.5 Gal/Ft. (6 in.) / ___ ___ Gal/Ft. (___ in.) =
0.38 Gal/Vol
6.5 Total Gal Purged

Well Integrity: Yes / No
Prot. Casing Secure: NA
Concrete Collar Intact: ___ ___
Other ___ ___ ___

Equipment Documentation

Purging/Sampling Equipment Used :

(✓ If Used For) Purging	Sampling		Equipment ID
X	X	Peristaltic Pump	
—	—	Submersible Pump	
—	—	Bailer	
X	X	PVC/Silicon Tubing	
—	—	Teflon/Silicon Tubing	
—	—	Airlift	
—	—	Hand Pump	
—	X	In-line Filter	0.45u
—	—	Press/Vac Filter	
—	—		
—	—		

Decontamination Fluids Used :

(✓ All That Apply at Location)
___ Methanol (100%)
___ 25% Methanol/75% ASTM Type II water
X Deionized Water
___ Liquinox Solution
___ Hexane
___ HNO_3/D.I. Water Solution
___ Potable Water
___ None
___ ___
___ ___

Field Analysis Data

Ambient Air VOC ~ ppm Well Mouth ~ ppm
Field Data Collected ___ In-line X In Container
Sample Observations: ___ Turbid X Clear ___ Cloudy ___ Colored ___ Odor

Purge Data	@ 4 Gal.	@ 5 Gal.	@ 5.5 Gal.	@ 6 Gal.	@ 6.5 Gal.
Temperature, Deg. C	28.9	26.9	28.9	29.1	28.7
pH, units	6.35	6.35	6.22	6.22	6.31
Specific Conductivity (umhos/cm @ 25 Deg. C)	2.38	2.26	22.5	220	212
~~Oxidation Reduction, +/- mv~~	53.2	20.2	13.78	12.47	16.04
~~Dissolved Oxygen, ppm~~					

NTU

Sample Collection Requirements

(✓ If Required at this Location)

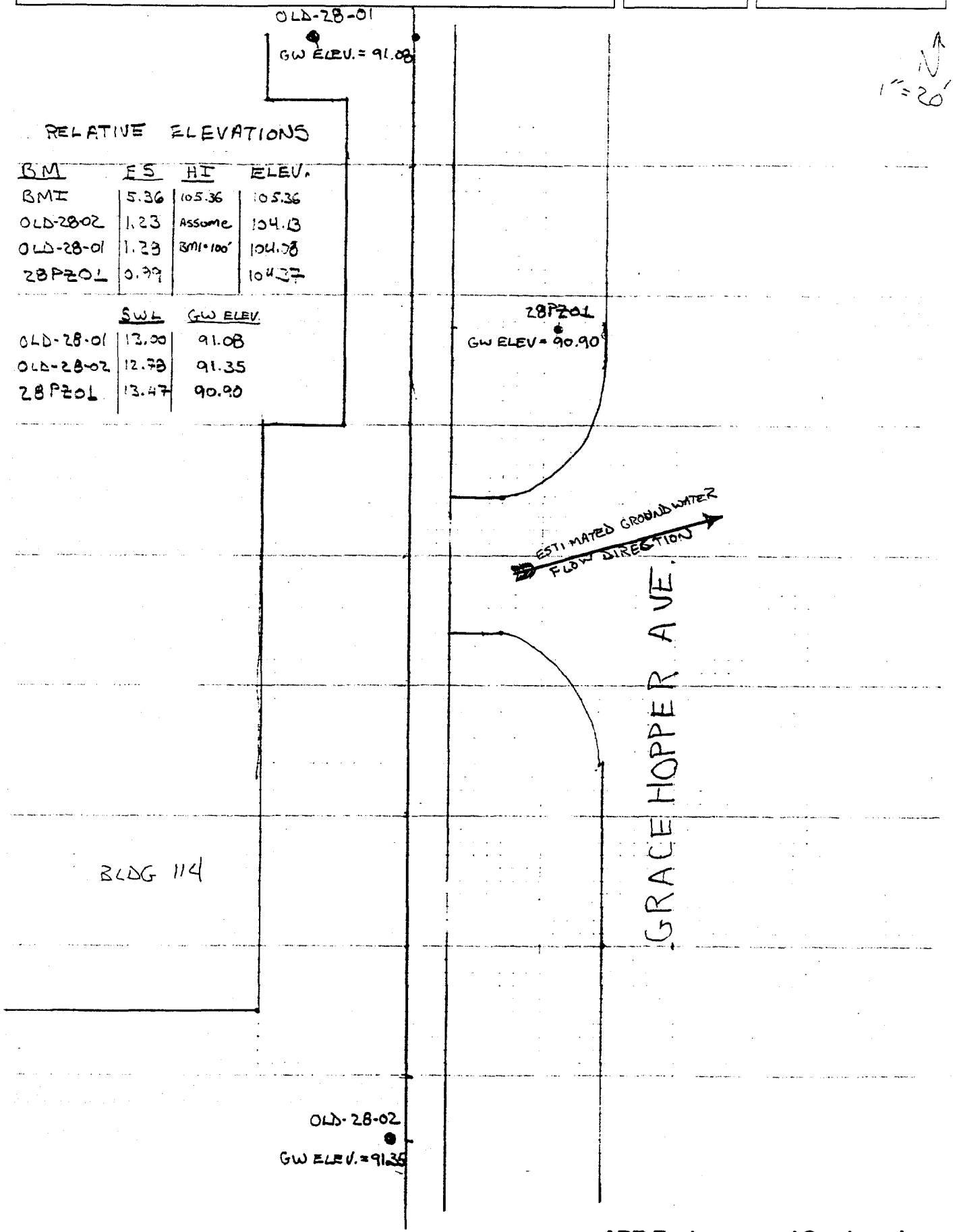
Analytical Parameter	✓ If Field Filtered	Preservation Method	Volume Required	✓ If Sample Collected	Sample Bottle IDs
VOA	___	HCL	2 X 40ml	✓	___/___/___/___
SVOA	___	4°C	2 X 1L	✓	___/___/___/___
Pest/PCB	___	4°C	2 X 1L	✓	___/___/___/___
Inorganics	✓	HNO_3	2 X 1L pres.	✓	___/___/___/___
~~Explosives~~	___	4°C		___	___/___/___/___
TPH	___	H_2SO_4		___	___/___/___/___
~~TOC~~ TSS	___	~~H2SO4~~	1 X 500ml	✓	___/___/___/___
Nitrate	___	H_2SO_4		___	___/___/___/___

Notes: Collected 1L metals filtered
1L not filtered

APPENDIX A-3

WATER-LEVEL SURVEY RESULTS

PROJECT	COMP. BY	JOB NO.
	CHK. BY	DATE



RELATIVE ELEVATIONS

BM	FS	HI	ELEV.
BM1	5.36	105.36	105.36
OLD-28-02	1.23	Assume	104.13
OLD-28-01	1.23	BM1+100'	104.08
28PZ01	0.99		104.37

	SWL	GW ELEV.
OLD-28-01	13.00	91.08
OLD-28-02	12.78	91.35
28PZ01	13.47	90.90

APPENDIX B

SUMMARY OF POSITIVE DETECTIONS IN GROUNDWATER

Appendix B. Summary of Positive Detections in Groundwater Analytical Results
Study Area 28

Naval Training Center, Orlando
Orlando, Florida

Identifier	Background [1] Screening		FDEPG		Primary FEDMCL	RBC[2] for Tap Water		28G00101		28H00101		28G00201		28H00201	
Sampling Date								26-Jun-97		26-Jun-97		25-Jun-97		25-Jun-97	
Semivolatile Organics, ug/L															
Diethylphthalate			5600	st	ND	29,000	n	3	J	NA				NA	
Inorganics, ug/L															
Aluminum	4,067		200	s	ND	37,000	n	2000				292		118	J
Barium	31.4		2,000	p	2,000	2,600	n	4.1	J	3	J	3.1	J		
Calcium	36,830		ND		ND	1,000,000		46800	J	46700	J	34400	J	34200	J
Chromium	7.8		100	p	100	180	n	4	J						
Copper	5.4		1,000	s	1,300	1,500	n	3.8	J			3	J		
Iron	1,227		300	s	ND	11,000	n	55.7	J	18.9	J				
Lead	4		15	p	15	15		6							
Magnesium	4,560		ND		ND	118,807		8260		8160		1800	J	1840	J
Manganese	17		50	s	ND	840	n	3.8	J			2.5	J	2	J
Potassium	5,400		ND		ND	297,016		1720	J	1760	J	1520	J	1460	J
Sodium	18,222		160,000	p	ND	396,022		7080		6890		5380		5430	
Vanadium	20.6		49	st	ND	260	n	6.7	J	5.8	J	13.6	J	12.2	J
General Chemistry, mg/L															
Total Suspended Solids	ND		ND		ND	ND		43							

Appendix B. Summary of Positive Detections in Groundwater Analytical Results Study Area 28

Naval Training Center, Orlando
Orlando, FL

NOTES:

[1] Groundwater background screening value is twice the average of detected concentrations for inorganic analytes.
[2] RBC = Risk-Based Concentration Table, USEPA Region III, March 1997, R.L. Smith. RBC for chromium is based on chromium VI.
For essential nutrients (calcium, magnesium, sodium and potassium) screening values were derived based on recommended daily allowances (RDAs).
s = Secondary Standard.
st = Systemic Toxicant
p = Primary Standard

n = noncarcinogenic effects.
c = carcinogenic effects.
ND = Not determined.
NA = Not analyzed.
USEPA = U.S. Environmental Protection Agency.
FDEPG = Florida Department of Environmental Protection, Groundwater Guidance Concentrations, June 1994.
FEDMCL= Federal Maximum Contaminant Levels, Primary Drinking Water Regulations and Health Advisories, October 1996.
J = Reported concentration is an estimated quantity.
G = unfiltered water sample.
H = filtered water sample.
ug/l = micrograms per liter.
Bold/shaded numbers indicate exceedance of groundwater guidance or background (if background is higher than groundwater guidance)
Blank space indicates analyte/compound was not detected at the reporting limit.

APPENDIX C

SUMMARY OF ANALYTICAL RESULTS IN GROUNDWATER

Appendix C. Summary of Groundwater Analytical Results
Study Area 28

Naval Training Center, Orlando
Orlando, FL

Sample ID	28G00101		28G00201		28H00101		28H00201	
Lab ID	C7G010113002		C7F270127005		C7G010113003		C7F270127006	
Sampling Date	6/26/97		6/25/97		6/26/97		6/25/97	
Volatile organics, ug/L								
1,1,1,2-Tetrachloroethane	0.5	U	0.5	U	NA		NA	
1,1,1-Trichloroethane	0.5	U	0.5	U	NA		NA	
1,1,2,2-Tetrachloroethane	0.5	UJ	0.5	UJ	NA		NA	
1,1,2-Trichloroethane	0.5	U	0.5	U	NA		NA	
1,1-Dichloroethane	0.5	U	0.5	U	NA		NA	
1,1-Dichloroethene	0.5	U	0.5	U	NA		NA	
1,1-Dichloropropene	0.5	U	0.5	U	NA		NA	
1,2,3-Trichlorobenzene	0.5	UJ	0.5	UJ	NA		NA	
1,2,3-Trichloropropane	0.5	UJ	0.5	UJ	NA		NA	
1,2,4-Trimethylbenzene	0.5	UJ	0.5	UJ	NA		NA	
1,2-Dibromo-3-chloropropane	0.5	R	0.5	R	NA		NA	
1,2-Dibromoethane	0.5	U	0.5	U	NA		NA	
1,2-Dichloroethane	0.5	U	0.5	U	NA		NA	
1,2-Dichloropropane	0.5	UJ	0.5	U	NA		NA	
1,3,5-Trimethylbenzene	0.5	UJ	0.5	UJ	NA		NA	
1,3-Dichloropropane	0.5	U	0.5	U	NA		NA	
2,2-Dichloropropane	0.5	U	0.5	U	NA		NA	
2-Chlorotoluene	0.5	UJ	0.5	UJ	NA		NA	
4-Chlorotoluene	0.5	U	0.5	U	NA		NA	
4-Isopropyltoluene	0.5	UJ	0.5	UJ	NA		NA	
Benzene	0.5	U	0.5	U	NA		NA	
Bromobenzene	0.5	U	0.5	U	NA		NA	
Bromochloromethane	0.5	U	0.5	U	NA		NA	
Bromodichloromethane	0.5	U	0.5	U	NA		NA	
Bromoform	0.5	U	0.5	U	NA		NA	
Bromomethane	0.5	U	0.5	U	NA		NA	
Carbon tetrachloride	0.5	U	0.5	U	NA		NA	
Chlorobenzene	0.5	U	0.5	U	NA		NA	
Chloroethane	0.5	U	0.5	U	NA		NA	
Chloroform	0.5	U	0.5	U	NA		NA	
Chloromethane	0.5	U	0.5	U	NA		NA	
cis-1,2-Dichloroethene	0.5	U	0.5	U	NA		NA	
cis-1,3-Dichloropropene	0.5	U	0.5	U	NA		NA	
Dibromochloromethane	0.5	U	0.5	U	NA		NA	
Dibromomethane	0.5	U	0.5	U	NA		NA	
Dichlorodifluoromethane (CFC 12)	0.5	U	0.5	U	NA		NA	
Ethylbenzene	0.5	U	0.5	U	NA		NA	
Isopropylbenzene	0.5	U	0.5	U	NA		NA	
Methylene chloride	0.5	U	0.5	U	NA		NA	
n-Butylbenzene	0.5	U	0.5	U	NA		NA	
n-Propylbenzene	0.5	UJ	0.5	UJ	NA		NA	
sec-Butylbenzene	0.5	UJ	0.5	UJ	NA		NA	
Styrene	0.5	U	0.5	U	NA		NA	
tert-Butylbenzene	0.5	UJ	0.5	UJ	NA		NA	
Tetrachloroethene	0.5	U	0.5	U	NA		NA	
Toluene	0.5	U	0.5	U	NA		NA	
trans-1,2-Dichloroethene	0.5	U	0.5	U	NA		NA	
trans-1,3-Dichloropropene	0.5	U	0.5	U	NA		NA	
Trichloroethene	0.5	UJ	0.5	UJ	NA		NA	
Trichlorofluoromethane (CFC 11)	0.5	U	0.5	U	NA		NA	

Appendix C. Summary of Groundwater Analytical Results
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Naval Training Center, Orlando
Orlando, FL

Sample ID	28G00101		28G00201		28H00101		28H00201	
Lab ID	C7G010113002		C7F270127005		C7G010113003		C7F270127006	
Vinyl chloride	0.5	U	0.5	U	NA		NA	
Xylene (total)	0.5	U	0.5	U	NA		NA	
Semivolatile organics, ug/L								
1,2,4-Trichlorobenzene	10	U	10	U	NA		NA	
1,2-Dichlorobenzene	10	U	10	U	NA		NA	
1,3-Dichlorobenzene	10	U	10	U	NA		NA	
1,4-Dichlorobenzene	10	U	10	U	NA		NA	
2,2'-oxybis(1-Chloropropane)	10	U	10	U	NA		NA	
2,4,5-Trichlorophenol	25	U	25	U	NA		NA	
2,4,6-Trichlorophenol	10	U	10	U	NA		NA	
2,4-Dichlorophenol	10	U	10	U	NA		NA	
2,4-Dimethylphenol	10	U	10	U	NA		NA	
2,4-Dinitrophenol	25	U	25	U	NA		NA	
2,4-Dinitrotoluene	10	U	10	U	NA		NA	
2,6-Dinitrotoluene	10	U	10	U	NA		NA	
2-Chloronaphthalene	10	U	10	U	NA		NA	
2-Chlorophenol	10	U	10	U	NA		NA	
2-Methylnaphthalene	10	U	10	U	NA		NA	
2-Methylphenol	10	U	10	U	NA		NA	
2-Nitroaniline	25	U	25	U	NA		NA	
2-Nitrophenol	10	U	10	U	NA		NA	
3,3'-Dichlorobenzidine	10	U	10	U	NA		NA	
3-Nitroaniline	25	U	25	U	NA		NA	
4,6-Dinitro-2-methylphenol	25	U	25	U	NA		NA	
4-Bromophenyl-phenylether	10	U	10	U	NA		NA	
4-Chloro-3-methylphenol	10	U	10	U	NA		NA	
4-Chloroaniline	10	U	10	U	NA		NA	
4-Chlorophenyl-phenylether	10	U	10	U	NA		NA	
4-Methylphenol	10	U	10	U	NA		NA	
4-Nitroaniline	25	U	25	U	NA		NA	
4-Nitrophenol	25	U	25	U	NA		NA	
Acenaphthene	10	U	10	U	NA		NA	
Acenaphthylene	10	U	10	U	NA		NA	
Anthracene	10	U	10	U	NA		NA	
Benzo(a)anthracene	10	U	10	U	NA		NA	
Benzo(a)pyrene	10	U	10	U	NA		NA	
Benzo(b)fluoranthene	10	U	10	U	NA		NA	
Benzo(g,h,i)perylene	10	U	10	U	NA		NA	
Benzo(k)fluoranthene	10	U	10	U	NA		NA	
bis(2-Chloroethoxy)methane	10	U	10	U	NA		NA	
bis(2-Chloroethyl)ether	10	U	10	U	NA		NA	
bis(2-Ethylhexyl)phthalate	10	U	10	U	NA		NA	
Butylbenzylphthalate	10	U	10	U	NA		NA	
Carbazole	10	U	10	U	NA		NA	
Chrysene	10	U	10	U	NA		NA	
Di-n-butylphthalate	10	U	10	U	NA		NA	
Di-n-octylphthalate	10	U	10	U	NA		NA	
Dibenz(a,h)anthracene	10	U	10	U	NA		NA	
Dibenzofuran	10	U	10	U	NA		NA	
Diethylphthalate	3	J	10	U	NA		NA	
Dimethylphthalate	10	U	10	U	NA		NA	
Fluoranthene	10	U	10	U	NA		NA	

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Sample ID	28G00101		28G00201		28H00101		28H00201	
Lab ID	C7G010113002		C7F270127005		C7G010113003		C7F270127006	
Fluorene	10	U	10	U	NA		NA	
Hexachlorobenzene	10	U	10	U	NA		NA	
Hexachlorobutadiene	10	U	10	U	NA		NA	
Hexachlorocyclopentadiene	10	U	10	U	NA		NA	
Hexachloroethane	10	U	10	U	NA		NA	
Indeno(1,2,3-cd)pyrene	10	U	10	U	NA		NA	
Isophorone	10	U	10	U	NA		NA	
N-Nitroso-di-n-propylamine	10	U	10	U	NA		NA	
N-Nitrosodiphenylamine (1)	10	U	10	U	NA		NA	
Naphthalene	10	U	10	U	NA		NA	
Nitrobenzene	10	U	10	U	NA		NA	
Pentachlorophenol	25	U	25	U	NA		NA	
Phenanthrene	10	U	10	U	NA		NA	
Phenol	10	U	10	U	NA		NA	
Pyrene	10	U	10	U	NA		NA	
Pesticides/PCBs, ug/L								
4,4'-DDD	0.1	U	0.1	U	NA		NA	
4,4'-DDE	0.1	U	0.1	U	NA		NA	
4,4'-DDT	0.1	U	0.1	U	NA		NA	
Aldrin	0.05	U	0.05	U	NA		NA	
alpha-BHC	0.05	UJ	0.05	UJ	NA		NA	
alpha-Chlordane	0.05	U	0.05	U	NA		NA	
Aroclor-1016	1	U	1	U	NA		NA	
Aroclor-1221	2	U	2	U	NA		NA	
Aroclor-1232	1	U	1	U	NA		NA	
Aroclor-1242	1	U	1	U	NA		NA	
Aroclor-1248	1	U	1	U	NA		NA	
Aroclor-1254	1	U	1	U	NA		NA	
Aroclor-1260	1	U	1	U	NA		NA	
beta-BHC	0.05	U	0.05	U	NA		NA	
delta-BHC	0.05	UJ	0.05	UJ	NA		NA	
Dieldrin	0.1	U	0.1	U	NA		NA	
Endosulfan I	0.05	U	0.05	U	NA		NA	
Endosulfan II	0.1	U	0.1	U	NA		NA	
Endosulfan sulfate	0.1	U	0.1	U	NA		NA	
Endrin	0.1	U	0.1	U	NA		NA	
Endrin aldehyde	0.1	U	0.1	U	NA		NA	
Endrin ketone	0.1	U	0.1	U	NA		NA	
gamma-BHC (Lindane)	0.05	U	0.05	U	NA		NA	
gamma-Chlordane	0.05	U	0.05	U	NA		NA	
Heptachlor	0.05	U	0.05	U	NA		NA	
Heptachlor epoxide	0.05	U	0.05	U	NA		NA	
Methoxychlor	0.5	U	0.5	U	NA		NA	
Toxaphene	5	U	5	U	NA		NA	
Inorganics, ug/L								
Aluminum	2000		292		59.5	U	118	J
Antimony	14	U	14	U	14	U	14	U
Arsenic	2.3	U	2.3	U	2.3	U	2.3	U
Barium	4.1	J	3.1	J	3	J	3	U
Beryllium	0.12	U	0.12	U	0.12	U	0.12	U
Cadmium	2.6	U	2.6	U	2.6	U	2.6	U
Calcium	46800	J	34400	J	46700	J	34200	J

Appendix C. Summary of Groundwater Analytical Results
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Naval Training Center, Orlando
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Sample ID	28G00101		28G00201		28H00101		28H00201	
Lab ID	C7G010113002		C7F270127005		C7G010113003		C7F270127006	
Chromium	4	J	2.3	U	2.3	U	2.3	U
Cobalt	3.1	U	3.1	U	3.1	U	3.1	U
Copper	3.8	J	3	J	1.5	U	1.5	U
Iron	55.7	J	48.3	U	18.9	J	10	U
Lead	6		1	U	1	U	1	U
Magnesium	8260		1800	J	8160		1840	J
Manganese	3.8	J	2.5	J	0.88	U	2	J
Mercury	0.2	U	0.2	U	0.2	U	0.2	U
Nickel	8.4	U	8.4	U	8.4	U	8.4	U
Potassium	1720	J	1520	J	1760	J	1460	J
Selenium	3	U	3	U	3	U	3	U
Silver	2.4	U	2.4	U	2.4	U	2.4	U
Sodium	7080		5380		6890		5430	
Thallium	4.1	U	5.8	U	3.4	U	6.2	U
Vanadium	6.7	J	13.6	J	5.8	J	12.2	J
Zinc	9	U	15.3	U	14.1	U	5.1	U
General Chemistry, mg/L								
Total Suspended Solids	43		4	U	NA		NA	

Notes for Summary of Analytical Results Tables
Study Area 28

Naval Training Center, Orlando
Orlando Florida

NA = Identified parameter not analyzed.
Sample ID = Sample Identifier
Lab ID = Laboratory identifier

Units:

mg/kg	milligram per kilogram
ug/kg	microgram per kilogram
mg/L	milligram per liter
ug/L	microgram per liter

The following standard analytical data qualifiers have the following definitions:

U	The analyte/compound was analyzed for but was not detected above the reported sample quantitation limit The number preceding the U qualifier is the reported sample quantitation limit.
J	The analyte/compound was positively identified and the associated numerical value is an estimated concentration of the analyte/compound in the sample.
UJ	The analyte/compound was not detected above the reported sample quantitation limit. The reported quantitation limit, however, is approximate and may or may not represent the actual limit of quantitation necessary to accurately measure the analyte/compound in the sample.
R	The sample results are rejected during data validation because of serious deficiencies in meeting quality control criteria.